

Notice of Allowability

Application No.

09/930,640

Examiner

Jonathan G. Sterrett

Applicant(s)

NEL, ANDRE M. E.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12-13-07.
2. ☒ The allowed claim(s) is/are 1-5, 8-13 and 16-24.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

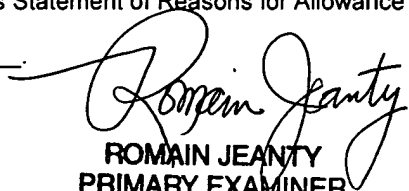
5. ☐ Notice of Informal Patent Application

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 12-13-07.

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____


ROMAIN JEANTY
PRIMARY EXAMINER

Allowance

1. **Claims 1-5, 8-13 and 16-24** are pending and allowed in the application. **Claims 6, 7, 14 and 15** have been cancelled. Please see the examiner's amendment and reasons for allowance below.

Examiner's Amendment

2. An examiner's amendment to the record is attached to the Office Action. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Edouard Garcia Reg. 38,461 on 4 December 2007. See attached interview summary.

3. The following claims represent the claims pending in the application.

Claim 1 (currently amended): A computer-implemented method of allocating freight haulage jobs, comprising:

receiving from a first entity a respective set of capacity attributes for each of one or more freight-hauling mobile carrier entities on route to respective destinations for respective current freight haulage jobs, wherein each of the transmitted sets of capacity attributes comprises position information, route information and excess capacity information specifying current available freight-hauling capacity of the respective mobile

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carrier entity, wherein the received excess capacity information includes amount of available capacity and mode of transport;

computing a projection of future available carrier capacity based upon the received mobile carrier capacity attributes;

receiving from a second entity a respective specification for each of one or more freight haulage jobs;

determining ones of the mobile carrier entities that match respective ones of the freight haulage jobs based upon the computed projection of future available carrier capacity and the specifications of the freight haulage jobs, wherein the determining comprises identifying the matching ones of the mobile carrier entities based at least in part upon a comparison of the received excess capacity information and an amount of needed capacity and mode of transport specified for each of the freight haulage jobs; and

transmitting to the second entity a notification of one or more of the matching mobile carrier entities.

Claim 2 (previously presented): The method of claim 1, wherein the computing comprises estimating future positions of one or more of the mobile carrier entities.

Claim 3 (previously presented): The method of claim 2, wherein the estimating comprises estimating the future positions of one or more of the mobile carrier entities at

one or more times within pickup time windows specified for each of the freight haulage jobs.

Claim 4 (previously presented): The method of claim 2, wherein the estimating comprises estimating the future positions of one or more of the mobile carrier entities based at least in part upon current transport condition information.

Claim 5 (previously presented): The method of claim 2, wherein the determining comprises identifying the matching ones of the mobile carrier entities based at least in part upon the proximity of the estimated mobile carrier entity positions to pickup locations specified for each of the freight haulage jobs.

Claim 6 (canceled)

Claim 7 (canceled)

Claim 8 (previously presented): The method of claim 1, further comprising computing an amount of capacity available on a given one of the mobile carrier entities based upon excess capacity information received from the given mobile carrier entity.

Claim 9 (previously presented): The method of claim 8, wherein the excess capacity information received from the given mobile carrier entity includes maximum

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volume information and maximum weight haulable by the given mobile carrier entity and volume information and weight for each item of freight being hauled by the given mobile carrier entity.

Claim 10 (currently amended: A computer readable medium for allocating freight haulage jobs, the computer-readable medium comprising computer-readable instructions for causing a computer to:

receive from one or more users respective capacity attributes, including position information, route information and excess capacity information specifying available freight-hauling capacity, for each mobile carrier entity in a set of freight-hauling mobile carrier entities, wherein the received excess capacity information includes amount of available capacity and mode of transport;

compute a projection of available carrier capacity based upon the received mobile carrier capacity attributes; and

identify one or more freight haulage job candidates from the set of mobile carrier entities based upon the computed projection of available carrier capacity and shipping attributes for each of a set of freight haulage jobs, wherein the computer-readable instructions cause the computer to identify the one or more freight haulage job candidates based at least in part upon a comparison of the received excess capacity information and an amount of needed capacity and mode of transport specified for each of the freight haulage jobs.

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Claim 11 (currently amended): The computer readable medium of claim 10, wherein computing the projection of available carrier capacity comprises estimating future positions of one or more of the mobile carrier entities.

Claim 12 (currently amended): The computer readable medium of claim 11, wherein future positions of one or more of the mobile carrier entities are estimated at one or more times within pickup time windows specified for each of the freight haulage jobs.

Claim 13 (currently amended): The computer readable medium of claim 12, wherein the freight haulage job candidates are identified based at least in part upon the proximity of the estimated mobile carrier entity positions to pickup locations specified for each of the freight haulage jobs.

Claim 14 (canceled)

Claim 15 (canceled)

Claim 16 (currently amended): The computer readable medium of claim 10, further comprising computing an amount of capacity available on a given mobile carrier entity based upon excess capacity information received from the given mobile carrier entity.

Claim 17 (currently amended): The computer readable medium of claim 16, wherein the excess capacity information received from the given mobile carrier entity includes maximum volume information and maximum weight haulable by the given mobile carrier entity and volume information and weight for each item of freight being hauled by the given mobile carrier entity.

Claim 18 (currently amended): A system, comprising:
a freight haulage job manager operable to perform operations comprising
receiving from a first entity a respective set of capacity attributes for each
of one or more freight-hauling mobile carrier entities on route to
respective destinations for respective current freight haulage jobs,
wherein each of the transmitted sets of capacity attributes
comprises position information, route information and excess
capacity information specifying current available freight-hauling
capacity of the respective mobile carrier entity, wherein the
received excess capacity information includes amount of available
capacity and mode of transport,
computing a projection of future available carrier capacity based upon the
received mobile carrier capacity attributes,
receiving from a second entity a respective specification for each of one or
more freight haulage jobs,

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determining ones of the mobile carrier entities that match respective ones of the freight haulage jobs based upon the computed projection of future available carrier capacity and the specifications of the freight haulage jobs, wherein the determining comprises identifying the matching ones of the mobile carrier entities based at least in part upon a comparison of the received excess capacity information and an amount of needed capacity and mode of transport specified for each of the freight haulage jobs, and

transmitting to the second entity a notification of one or more of the matching mobile carrier entities; and

one or more portable devices each of which is carried by a respective one of the mobile carrier entities and comprises

a portable housing incorporating a display screen and one or more control buttons,

a memory in the housing;

a wireless transceiver in the housing,

a positioner in the housing and operable to compute position information,

a scanner in the housing and operable to direct a light beam at a symbol

and to recover information embedded in the symbol based upon detected reflections from the symbol, and

a controller in the housing and coupled to the memory, the wireless

transceiver, the positioner, and the scanner and operable to obtain

from the scanner capacity attributes, including position information, route information and excess capacity information, for the respective mobile carrier entity and to control wireless transmission of the capacity attributes through the wireless transceiver in accordance with a mobile wireless communication protocol.

Claim 19 (currently amended): The system, of claim 18, wherein the positioner comprises a GPS receiver.

Claim 20 (currently amended): The system, of claim 18, wherein the controller is operable to compute excess capacity information from scanned information relating to maximum volume information and maximum weight haulable by a given mobile carrier entity and volume information and weight for each item of freight being hauled by the given mobile carrier entity.

Claim 21 (previously presented): The method of claim 1, wherein the receiving from the first entity comprises prompting the first entity to enter the respective capacity attributes.

Claim 22 (previously presented): The method of claim 1, further comprising selecting one of the matching mobile carrier entities to perform a particular one of the freight haulage jobs.

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Claim 23 (previously presented): The method of claim 22, further comprising receiving respective haulage rates from ones of the mobile carrier entities, wherein the selecting is based at least in part on the received haulage rates.

Claim 24 (previously presented): The method of claim 1, wherein the excess capacity information is expressed in terms of volume and weight available on respective ones of the mobile carrier entities.

Allowable Subject Matter

4. **Claims 1-5, 8-13 and 16-24** are allowed.

Reasons for Allowance

5. The following is a statement of reasons for the indication of allowable subject matter:

As for independent **Claims 1, 10 and 18**, none of the prior art of record, taken individually or in any combination, teach, inter alia,

receiving from a first entity a set of capacity attributes for one or more freight-hauling mobile carrier entities on route to respective destinations, where each of the transmitted sets of capacity attributes comprises position information, route information and excess capacity information specifying current available capacity of the mobile

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carrier entities, where the received excess capacity information includes amount of available capacity and mode of transport;

computing a projection of future available carrier capacity based upon the received capacity attributes;

receiving from a second entity a respective specification for each of one or more freight haulage jobs;

determining which of the mobile carrier entities that match respective freight haulage jobs based upon comparing excess capacity information and mode for the carrier entity with the capacity and mode required for the freight haulage jobs.

transmitting to the second entity a notification of one or more of the matching mobile carrier entities.

The prior art references most closely resembling the Applicant's claimed invention are **Muralidharan**, B; "Dynamic Routing and Service Network Design for less-than-truckload (LTL) Motor Carriers", 1997, Iowa State University, Ames, Iowa, PhD Dissertation, pp.1-94. (hereinafter **Muralidharan**) and Leavitt, Wendy; "All Work and Play", Nov 2000, Fleet Owner, 95, 11; ABI/INFORM Global, p.75 (hereinafter **Leavitt**).

First, Muralidharan teaches a simulation that models the movement of carrier entities (in the simulation it is trucks with trailers) across a prescribed carrier network. The loading and scheduling of trucks in this simulation is performed a priori, thus there is no need to receive capacity information en route, since the capacity of each truck is

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already specified before the truck begins to move en route. Muralidharan does teach calculating weight and volume information for a truck (i.e. a mobile carrier entity), but again this is for a priori load planning before the truck is dispatched. Since the mobile carrier entity has loading planning performed and is dispatched with whatever load is on board, there is no need to receive or calculate capacity information based on the trailers en route, because Muralidharan's simulation assumes that what goes in the truck when it is loaded is constant until it is unloaded – there is no provision for lost freight on miscalculated loads, as it happens in the real world. Furthermore, the problem Muralidharan is trying to solve is that of higher level strategic issues. Muralidharan wants to forecast the total number of empty trailers that might be needed in advance as a test in implementing some higher level strategies for dealing with a LTL (less than truckload fleet). Muralidharan is not concerned per se with the available capacity of each truck en route, which is further evidenced by the fact that Muralidharan does not make provision in his simulation for lost freight, or errors made in planning loads. If a truck loses a piece of freight, or makes an unscheduled stop to pick up or drop freight off, these are real world occurrences that impact how much capacity a truck can carry. Muralidharan does not implicitly make provisions for these events and thus does not teach receiving capacity from a mobile carrier entity en route or calculating capacity for that entity for a freight haulage job, as specified in **Claims 1, 10 and 18** and furthermore does not teach any of the hardware elements (portable housing, memory, wireless transceiver, positioner, scanner and controller) recited in **Claim 18**.

Leavitt teaches the use of technology in the trucking industry to keep truckers

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connected and in some way to track their loads based on where the truckers are using a GPS system (i.e. Leavitt teaches a portable housing, memory, wireless transceiver, positioner, scanner and controller, as cited in **Claim 18**), however, this system does not transmit or calculate excess capacity information that includes the amount of available capacity and mode of transport, as cited in **Claims 1, 10 and 18**.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Sterrett whose telephone number is 571-272-6881. The examiner can normally be reached on 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 571-272-6729.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JGS

12-13-2007


ROMAIN JEANTY
PRIMARY EXAMINER
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